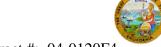
DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES Office of Structural Materials Quality Assurance and Source Inspection

Bay Area Branch 690 Walnut Ave.St. 150 Vallejo, CA 94592-1133 (707) 649-5453 (707) 649-5493



Contract #: 04-0120F4

Cty: SF/ALA Rte: 80 PM: 13.2/13.9

File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary **Report No:** WIR-003428 Address: 333 Burma Road **Date Inspected:** 27-Jul-2008

City: Oakland, CA 94607

OSM Arrival Time: 2300 Project Name: SAS Superstructure **OSM Departure Time:** 730 **Prime Contractor:** American Bridge/Fluor Enterprises, a JV

Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China

CWI Name: Chen Xi, Xu Le feng **CWI Present:** Yes No **Inspected CWI report:** Yes No **Rod Oven in Use:** Yes No N/A N/A N/A **Electrode to specification:** Yes No Weld Procedures Followed: Yes No N/A N/A **Qualified Welders:** Yes No **Verified Joint Fit-up:** Yes No N/A N/A Yes No N/A **Approved Drawings:** Yes No **Approved WPS:** Yes No N/A **Delayed / Cancelled:**

34-0006 **Bridge No: Component:** OBG, Tower

Summary of Items Observed:

Caltrans Quality Assurance (QA) Inspector, Ken Jobes, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, to randomly monitor welding and Quality Control (QC) functions. While on site, the QA Inspector observed and/or discovered the following:

Tower Heavy Machinery Shop Bay 1

The QA Inspector randomly observed the Flux Cored Arc Welding (FCAW) of three welds on Skin Plate Face C -Weld No. SSD1-SA159E/J-13, welder Dong Jia quan (I. D. No. 040345); Weld No. SSD1-SA159G/J-10, welder Sun Tao (I. D. No. 040385); and Weld No. SSD1-SA159G/J-11, welder Bai Wei ming. The Welding Procedure Specification (WPS) for all three welds was WPS-B-T-2332-TC-P5-F. Certified Welding Inspector (CWI), Xu Le Feng (CWI No. 07031411) present during this welding as were ABF QA Inspectors Yang Yi Heng and Liu Cheng. The Caltrans QA Inspector verified the qualifications of the welders, and that the electrode classification, diameter of electrode, amperage, voltage, travel speed, and preheat/interpass temperatures were within the specified ranges on the applicable WPS.

OBG Sub-Assembly Shop – Bay 1

Caltrans Quality Assurance (QA) Inspector, Ken Jobes, was present to monitor activities associated with the Production Monitoring Test (PMT) of Orthotropic Box Girder (OBG) Deck Panel U-rib welds. The PMT representing Deck Panels DP496-001 and DP598-001 was monitored. After MT of the tack welds was accepted by ZPMC Level II MT Technician, Cai Xin Xin, the three ribs (six welds) were simultaneously welded to the

WELDING INSPECTION REPORT

(Continued Page 2 of 2)

simulated deck plate in the horizontal groove (2G) welding position. The Welding Procedure Specification (WPS) used was WPS-B-T-2342-U1(Urib)-4. It is a combination procedure using gas metal arc welding (GMAW) for the root pass and submerged arc welding (SAW) for the cover or fill pass. The filler metals being used were verified to be as specified on the WPS; 1.4 mm diameter, ER70S-6 (JM-56) for GMAW and 4.8 mm diameter EH14(H14) for SAW. During the test, the Caltrans QA Inspector recorded the parameters of amperage, voltage, and travel speed on the U-Ribs PMT Inspection Sheet, dated 07-28-08, for both welding processes. The name of the gantry operator and each of the six welding operators' identification numbers were also recorded on the U-Ribs PMT Inspection Sheet. ZPMC Certified Welding Inspector (CWI), Chen Xi and ABF QA Inspector Whang Zhen Hua were present during welding.

The final weld was visually examined and accepted by ZPMC CWI, Chen Xi; and ABF QA Inspector Whang Zhen Hua. All welds appeared to meet the specified visual examination acceptance criteria.. After ultrasonic examination (UT) and acceptance by ZPMC Level II UT Technician, Ma Ji Long, the Caltrans QA Inspector designated the locations for the fifteen required macro-etch specimens. All macro-etch specimens were prepared and found acceptable by ZPMC CWI, and ABF QA Inspector. The macro-etch specimens were then examined by the Caltrans QA Inspector and the depth of penetration on each measured and the results recorded on Caltrans Project 04-0120F4 SAS OBG Fabrication Macro Etch Log.

All above observations appeared to meet the requirements of the job specifications.





Summary of Conversations:

As identified within the contents of this report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Ady Velasco (13816942685) China, who represents the Office of Structural Materials for your project.

Inspected By:	Jobes, Kenneth	Quality Assurance Inspector
Reviewed By:	Carreon, Albert	QA Reviewer